

Rush
Work Order ID 100353

100353

Page 1

April-22-13 1:02:25 PM

Item ID: D3953-17

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Gas Spring Spacer

Stop

NS2

Start Date: 4/22/13 Start Qty: 40.00

40

Cust Item ID:

Required Date: 5/03/13 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: MLS

Date: /3-04-23 Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3953	C								
100		0.00							
100 Waterjet									
FLOW CNC Waterjet	Memo	0.00							
	1-Cut as per Dwg D3953								
	Dwg Rev: <u>C</u>								
	Prog Rev: <u>C</u>								
	2- OPEN HOLES AS PER DWG								
	3- DEBURR IF NECESSARY								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110 QC	Memo	0.00							
Quality Control									

40 0

Jm13-07-20

40 0

Jm13-07-20

NCR: Yes / No

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order:		DISPOSITION			AGAINST DEPARTMENT/PROCESS														
Part No. _____		Rework <input type="checkbox"/>	Scrap <input type="checkbox"/>	Use-as-is <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Machining <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Finishing <input type="checkbox"/>	Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/>	Quality <input type="checkbox"/>	Other <input type="checkbox"/>
NCR No. _____		Work Order Update <input type="checkbox"/>																	
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance		Initial Chief Eng	Action Description			Sign & Date	Verification		QC Inspector						
Doc/Data																			
Equip/Tooling																			
Operator																			
Material																			
Setup																			
Other																			
Process																			
Supplier																			
Training																			
Unapproved																			
FAULT CATEGORY																			
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio				<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled			
																<input type="checkbox"/> Other			

Work Order ID 100353

April-22-13 1:02:25 PM

100353

Page 2

Item ID: D3953-17

Accept

N900040100

Setup

Start

NS1

Revision ID:

Item Name: Gas Spring Spacer

Stop

NS2

Start Date: 4/22/13 Start Qty: 40.00

40

Cust Item ID:

Required Date: 5/03/13 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00 AS 21 8				40	0	0	
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: STOFT Memo	0.00				40K	0	0	13-7-22
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				MJ 13-07-23	0	0	RKB/JR

NCR: Yes / No

WORK ORDER NON-COMPLIANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS									
				Rework Scrap Use-as-is Work Order Update	Skid-tube Machining Thermoforming Large Fab	Crosstube Small Fab Finishing Composite	Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier	Engineering Quality Other							
Part No. _____ NCR No. _____															
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector						
Doc/Data															
Equip/Tooling															
Operator															
Material															
Setup															
Other															
Process															
Supplier															
Training															
Unapproved															
FAULT CATEGORY															
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio		<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled			
														<input type="checkbox"/> Other	

Picklist Print

April-22-13 1:02:24 PM

Page 1

Work Order ID: 100353 **Start Date:** 4/22/13 **Required Date:** 5/03/13
Parent Item: D3953-17 **Start Qty:** 40.00 **Required Qty:** 40.00
Parent Item Name: Gas Spring Spacer

Comments: IPP RevA: New issue DD verified by:EC IPP Rev:B as per dwg revC DD 10.03.02
verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304B0.375X03.000 M304:SS bar .375 x 3.00		Purchased	No			100	f	16.1080	0.03125	1315788 1.5		Jm3-07-a0	

Location	Loc Qty	Loc Code
MAT051	16.108	
120204	2.278	
125340	13.83	125340

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: Date:

QA Closed: _____ Date: _____

Work Order: _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>			
				Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>			
				Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>			
				Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>				
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	Bend	Grain	Ovalized	Pressure/Forced							
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure							
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld							
Crushed/Crimped	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled							
Cuffs	Contamination	Maintenance	Part Moved								
Heat Treat	Countersink	Mislabeled	Positioned Wrong								
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge								
Ripples in Bend	Drill Holes	Offset									
Torque Waves in Extrusion	Drawing	Out of Calibration									
Turning Sequence	Finish	Out of Sequence									
Wave/Twist in Tube	Folio	Outside Dimensions									

DART AEROSPACE LTD	Work Order:	100353
Description: Gas Spring Spacer	Part Number:	D3953-17
Inspection Dwg: D3953 Rev: C		Page 1 of 1

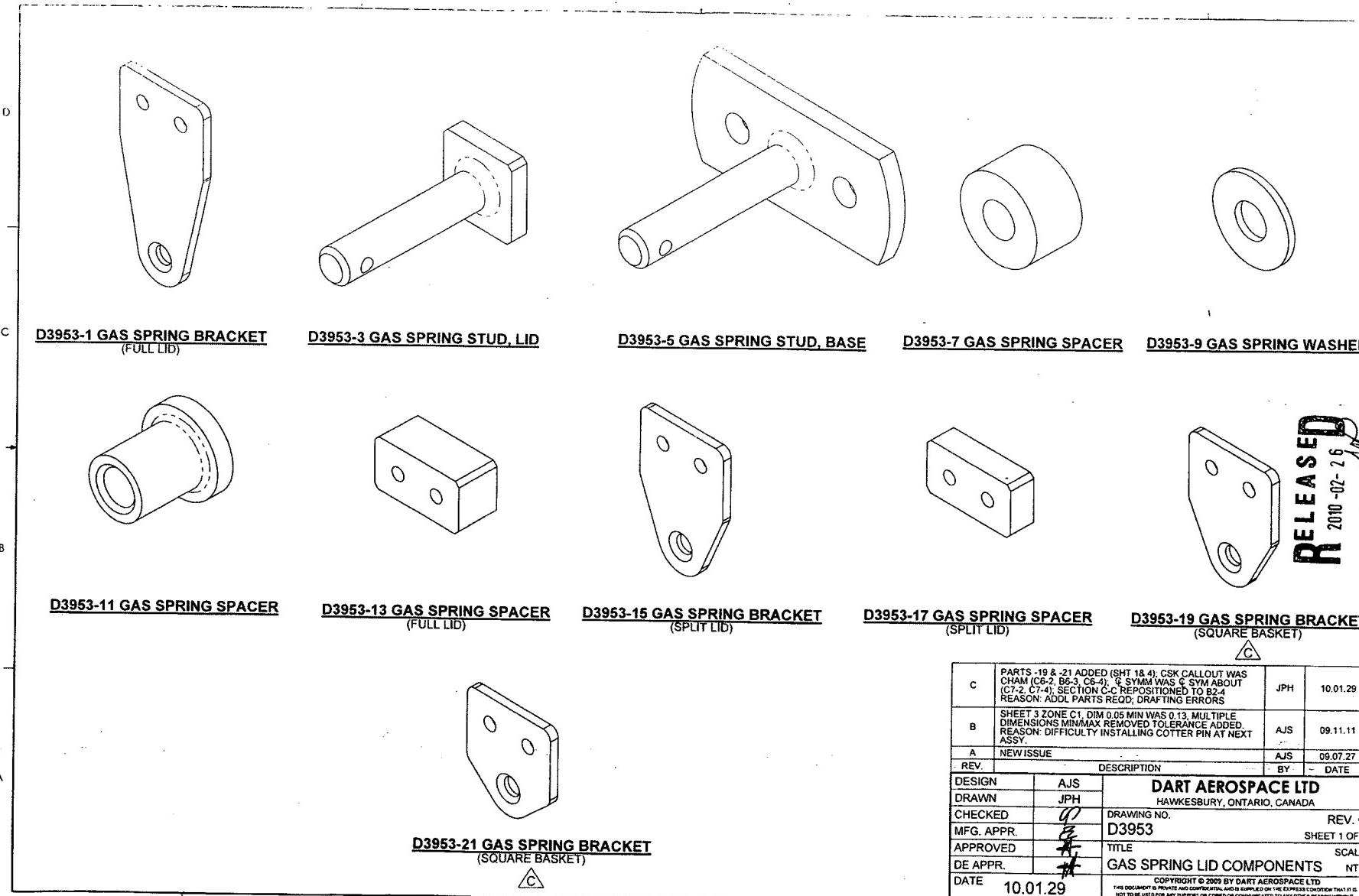
FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

10

Measured by:	Jm	Audited by:	27 89	Prototype Approval:	N/A
Date:	13-07-20	Date:	13-7-20	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	
B	09.12.14	Dwg Rev updated	KJ	SJ M

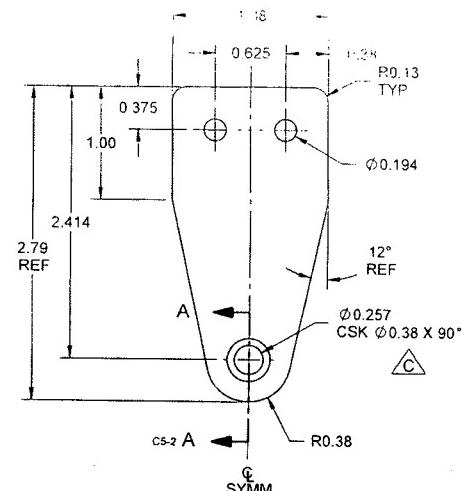


RELEASED
2010-02-26

C	PARTS -19 & -21 ADDED (SHT 18-4). OSK CALLOUT WAS CHAM (C6-2, B6-3, C6-4); Q SYMM WAS C SYMM ABOUT (C7-2, C7-4); SECTION C-C REPOSITIONED TO B2-4. REASON: ADDL PARTS REQD; DRAFTING ERRORS	JPH	10.01.29
B	SHEET 3 ZONE C1 DIM 0.05 MIN WAS 0.12. MULTIPLE DIMENSIONS MIN/MAX REMOVED; TOLERANCE ADDED. REASON: DIFFICULTY INSTALLING COTTER PIN AT NEXT ASSY.	AJS	09.11.11
A	NEW ISSUE	AJS	09.07.27
REV.	DESCRIPTION		
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH		
CHECKED	GO	DRAWING NO.	D3953
MFG. APPR.	BB	REV. C	SHEET 1 OF 4
APPROVED	AA	TITLE	SCALE
DE APPR.	BB	GAS SPRING LID COMPONENTS	NTS
DATE	10.01.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

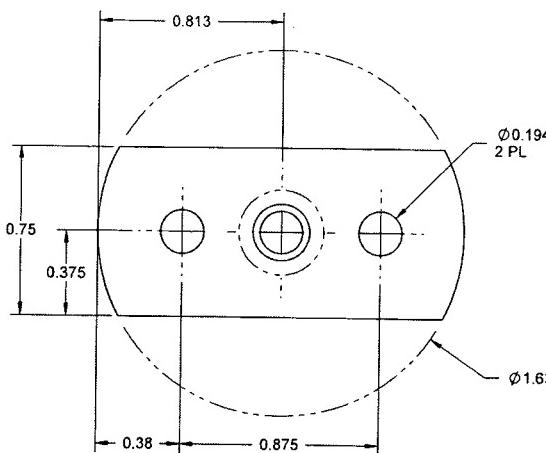
100353 MLJ
13-04-23

100353



**D3953-1 GAS SPRING BRACKET
(FULL LID)**

SECTION A-A C7-2



NOTES:
1) MATERIAL -1: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA

-3 & -5: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B
OR:
AISI 304/316 STAINLESS STEEL ROD
REF DART SPEC M304R

- 2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT -1: 0.11 lbs
-3: 0.03 lbs
-5: 0.06 lbs

8

7

6

5

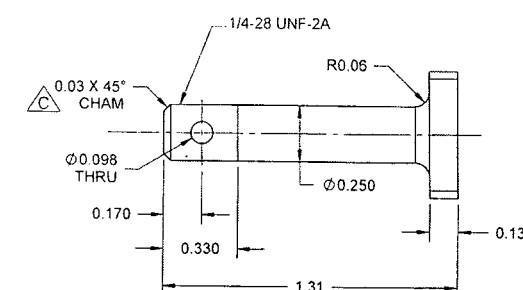
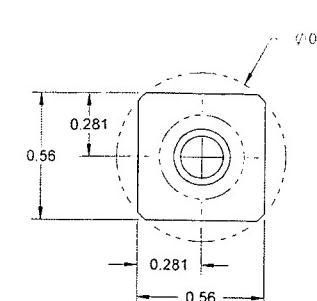
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3

2

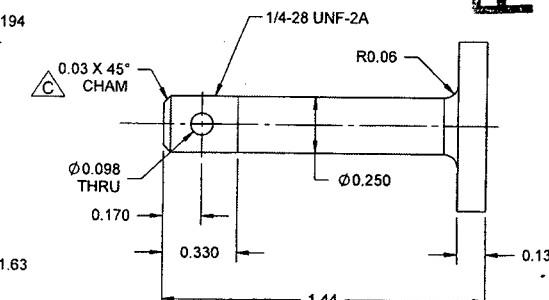
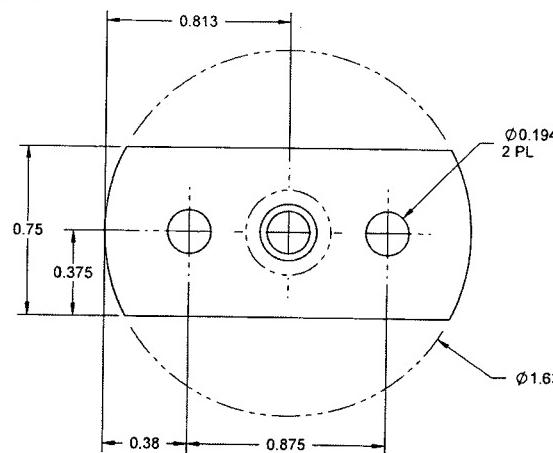
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A B C D



D3953-3 GAS SPRING STUD, LID

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R 2010-02-26

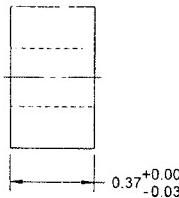
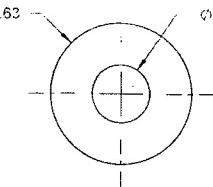


D3953-5 GAS SPRING STUD, BASE

DESIGN	AJS	DART AEROSPACE LTD
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA
CHECKED	DD	DRAWING NO.
MFG. APPR.	B	REV. C
APPROVED	H	D3953
DE APPR.	H	SHEET 2 OF 4
DATE	10.01.29	TITLE
		GAS SPRING LID COMPONENTS NTS
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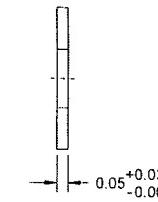
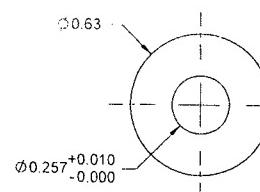
100353

$\phi 0.62$ $\phi 0.257^{+0.010}_{-0.000}$

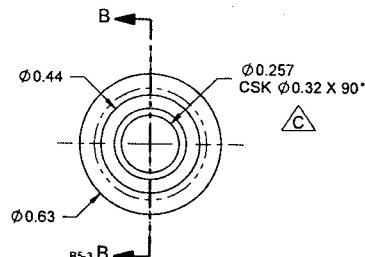


D3953-7 GAS SPRING SPACER

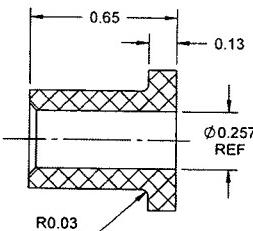
$\phi 0.63$ $\phi 0.257^{+0.010}_{-0.000}$



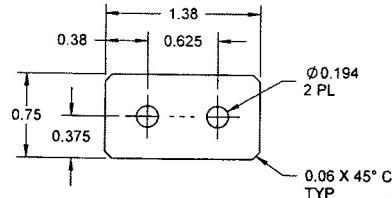
D3953-9 GAS SPRING WASHER



D3953-11 GAS SPRING SPACER



SECTION B-B B7-3



D3953-13 GAS SPRING SPACER

NOTES:

1) MATERIAL -7,-9 & -11: DELRIN II 150E OR ACETRON GP ACETAL, BLACK
REF DART SPEC M-DELRIN-R

-13: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION -13 ONLY: IDENTIFY WITH DART P/N "D3953-13" USING FINE POINT PERMANENT INK MARKER

7) WEIGHT -7-9-11: < 0.01 lbs EACH

-13: 0.17 lbs

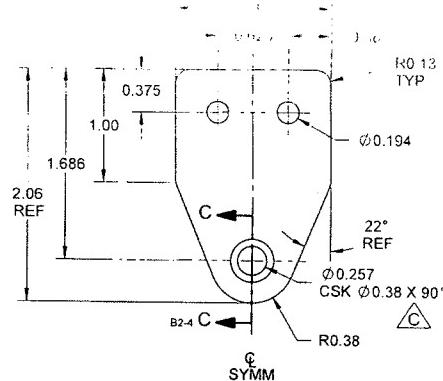
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2010-02-26

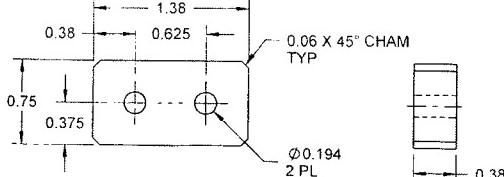
DESIGN	AJS	DART AEROSPACE LTD
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA
CHECKED	GO	DRAWING NO.
MFG. APPR.	B3	REV. C
APPROVED	TH	DATE 10.01.29
DE APPR.	TH	SHEET 3 OF 4
DATE	10.01.29	TITLE GAS SPRING LID COMPONENTS NTS

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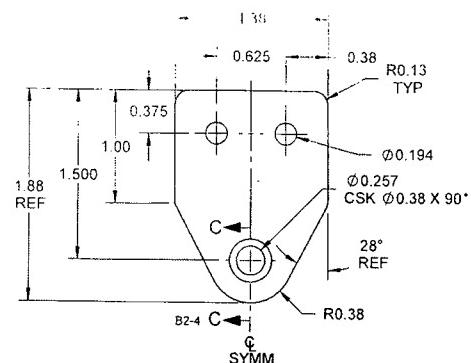
100353



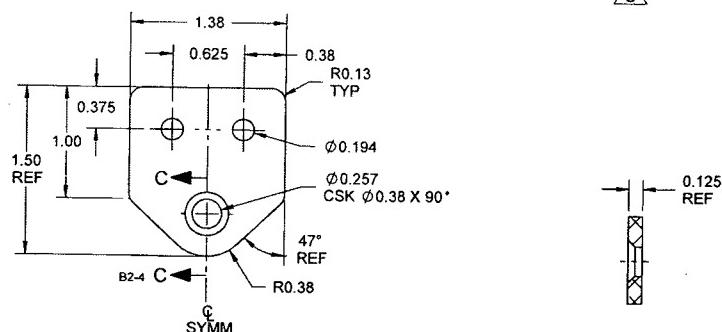
D3953-15 GAS SPRING BRACKET
(SPLIT LID)



D3953-17 GAS SPRING SPACER
(SPLIT LID)



D3953-19 GAS SPRING BRACKET
(SQUARE BASKET)



D3953-21 GAS SPRING BRACKET
(SQUARE BASKET)

SECTION C-C

RELEASED
2010-02-26

NOTES:

- 1) MATERIAL -15-19-21: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA
- 17: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT -15: 0.08 lbs
-17: 0.10 lbs
-19: 0.07 lbs
-21: 0.06 lbs

8 7 6 5 4 3 2 1

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	GD	DRAWING NO.	
MFG. APPR.	B	REV. C	D3953
APPROVED	H	SHEET 4 OF 4	TITLE
DE APPR.	H	SCALE	GAS SPRING LID COMPONENTS NTS
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